

## ABSTRACT

The invention provides a method and a system for associating the IP address of a client within a computer network with the address of the client's local domain name system (LDNS) server ("network discovery" function), and may furthermore use this association to provide such functions as network proximity analysis and load balancing. When a client's LDNS server queries the authoritative DNS (ADNS) server about an IP address of an application server, a name server monitor (NSM) of that ADNS server returns an IP address of an application server monitor (ASM) of the appropriate application server, instead of the address of the server itself, and records the IP address of the querying LDNS server, the ASM address returned, and a timestamp. When the ASM of the application server receives a request for web content from the client, it records the IP address of the client and a timestamp, with possibly other pertinent information (round-trip time, bandwidth estimate, etc.), and forwards the request to the application server. Both the NSM and the ASM then send their respective records to a Discovery and Monitoring Manager (DMM). The DMM finds matching pairs of those records and thus discovers LDNS-to-client associations. In addition to network discovery, a system according to the present invention has the ability to collect information about the state of the network between clients and servers, for its further storage and analysis on a per LDNS server basis.